Automated Route Reconnaissance Kit

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ARRK Objective

- **Provide equipment and software to simplify and expedite mounted route reconnaissance missions**
  - **Used to collect route condition and other physical infrastructure and terrain data**
  - **Exploit reach back operations for technical analysis and sharing data**
- **Support Current and Future Force requirements**

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Components

- Hardware
  - **Data sensor box**
  - **GPS**
  - **Laptop computer**
  - **Laser range finder**
  - **Digital camera**
  - **Military or civilian vehicle mounted**
  - **Hard case for carrying all components (luggage-sized box)**
- Software
  - **Based on TeleEngineering ToolKit**
  - **Based on FM 5-170 Engineer Reconnaissance**
  - **Automatically determine route slope and radius of curvature**

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Concept of Operation

- Vehicle mounted system, military or civilian
- Camera mounted to windshield
- Capture locations of bridges, fords, ferries, tunnels, obstacles, and other points/items of interest
- Pause system for dismounted reconnaissance
- Process data at completion of route

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ARRK Platforms

GROUND

AIR

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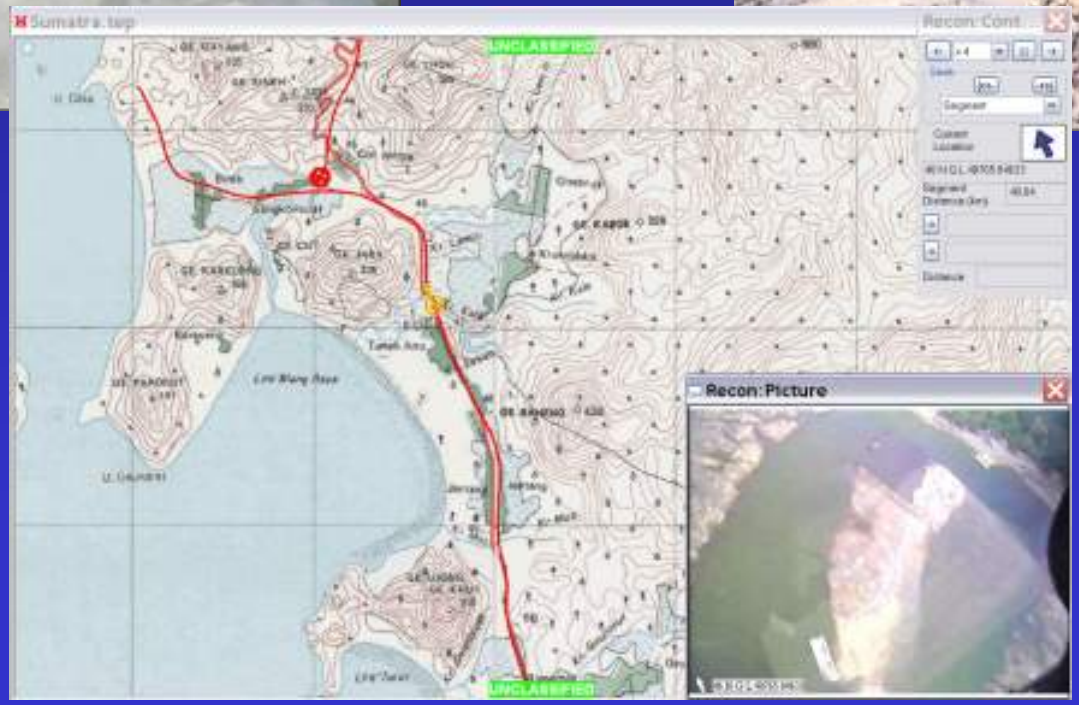
Natural Disasters



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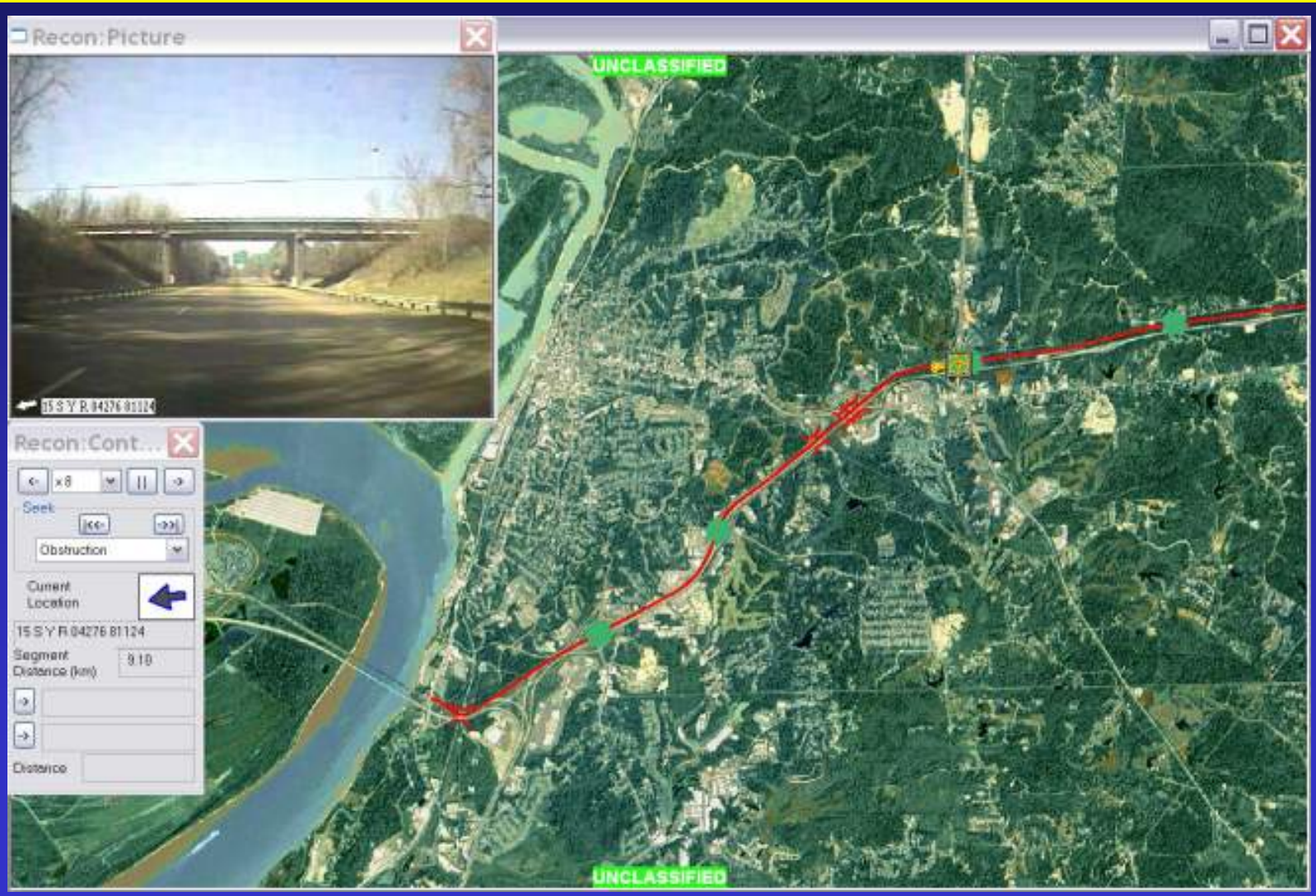
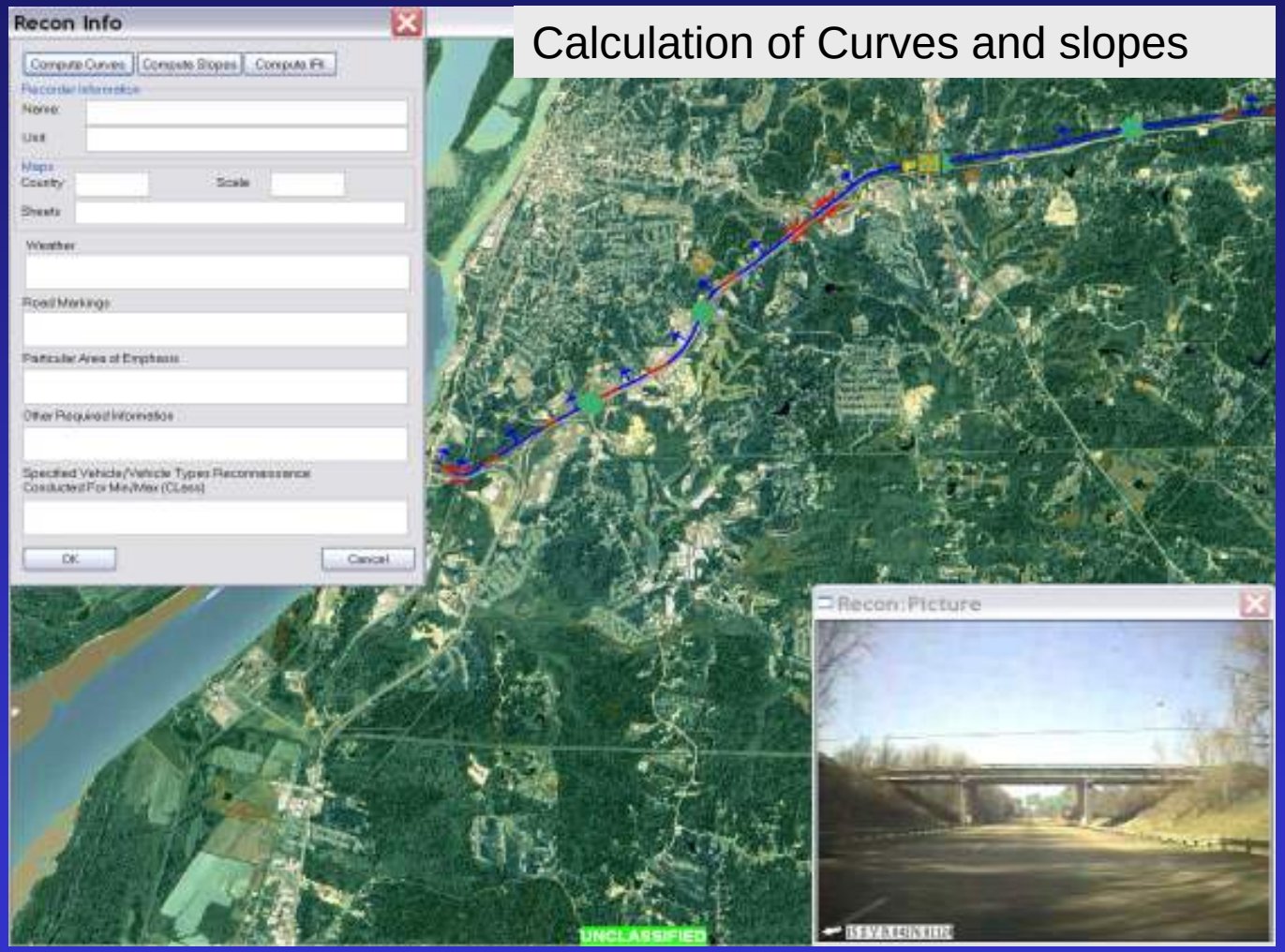
ARRK Video Output

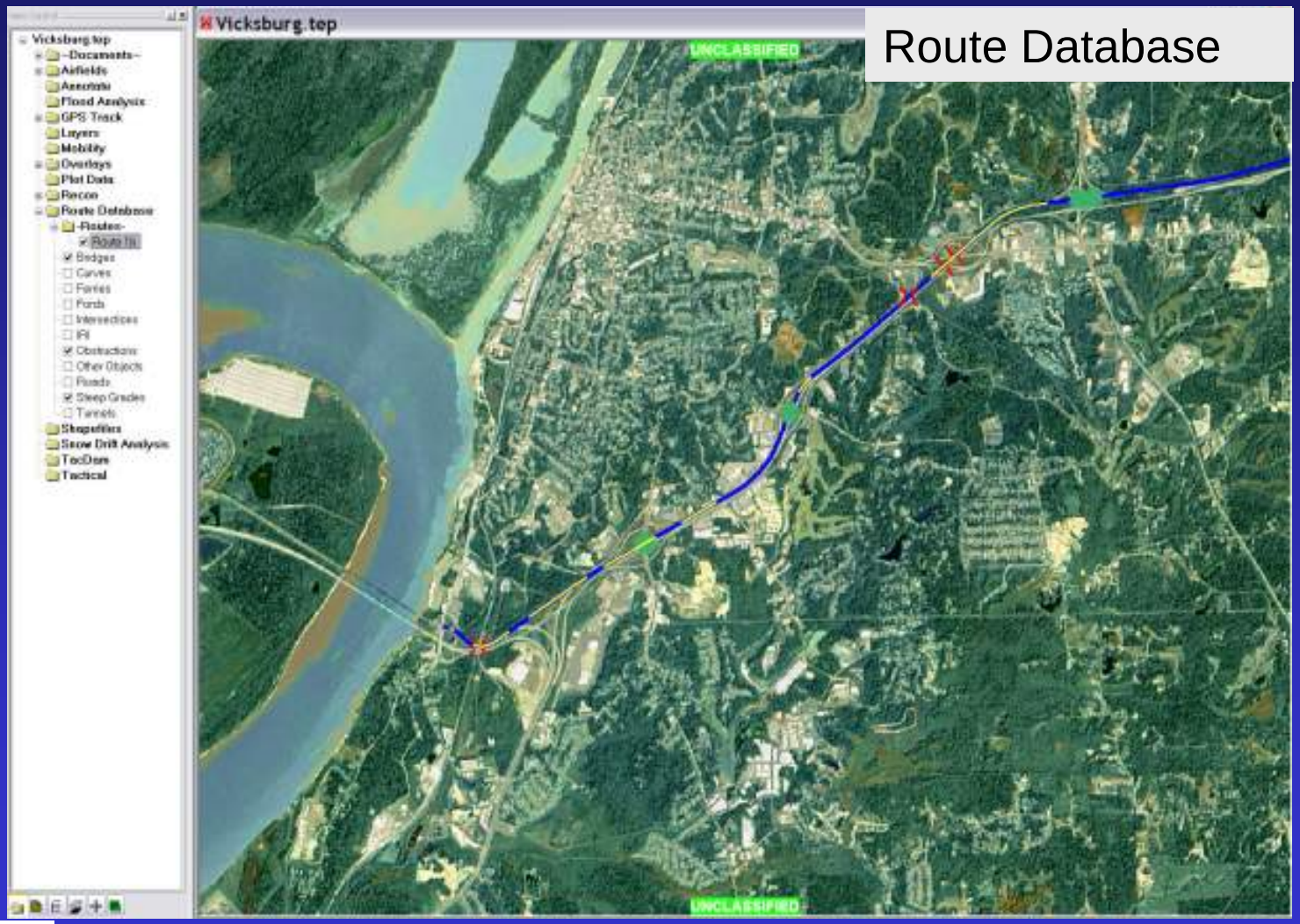


ARRK Reconnaissance



Calculation of Curves and slopes

ARRK Reconnaissance



Route Database

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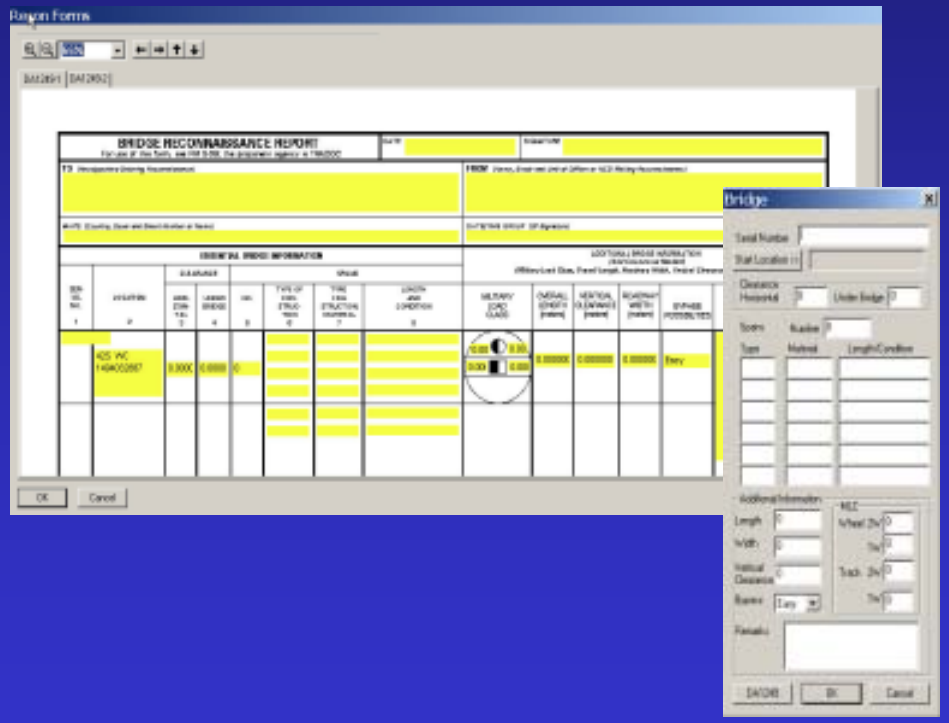
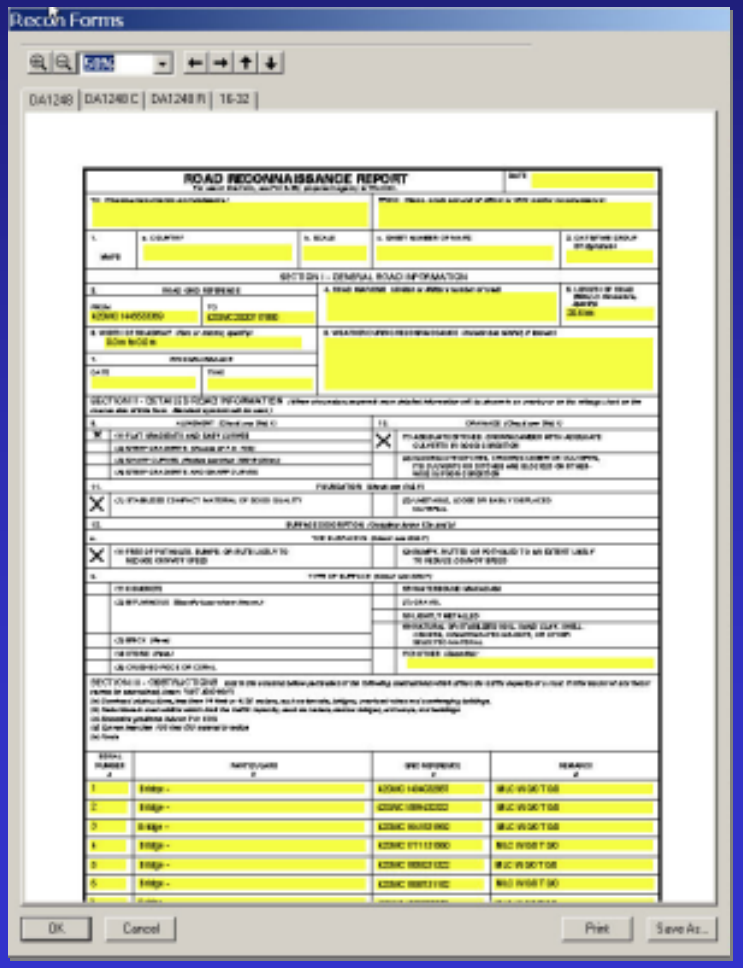
ARRK Data Forms

FM 5 - 170





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ARRK Benefits

- Photographic representation of route
- Can conduct much of the recon from vehicle
- Equipment can be mounted in military vehicles allowing off-road recon of avenues of approach
- Reduces time required to conduct recon (typically by 200 to 400%)
- Takes advantage of current Army forms for reporting reconnaissance results
- Easy to transition enhancements to the field

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Deployed Systems

- Iraq
- Afghanistan
- Germany
- Korea
- CONUS

- CENTCOM
- EUCOM
- PACOM
- USAID
- MEF
- FHWA

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